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THE INFLUENCE OF HESPERIDIN-C ON ABNORMAL CAPILLARY FRAGILITY IN RHEUMATOID ARTHRITIS PATIENTS

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Observations of the frequent occurrence of abnormal capillary fragility and the successful management of this condition with hesperidin (vitamin P) and hesperidin (vitamin P) combined with vitamin C in rheumatoid arthritis have been reported by Warter and associates[1]. The disturbances of capillary integrity are manifested by petechiae and ecchymotic areas which appear spontaneously or as a result of slight trauma, and very frequently are of concern to the patient. On many occasions, patients have called these phenomena to our attention in the arthritic clinic.

ETIOLOGIC CONSIDERATIONS OF CAPILLARY FRAGILITY

The factors of capillary toxicosis with increased capillary permeability may be infections, impaired nutrition, drugs, or a combination of these factors.

As pointed out by Talkov, Bauer and Short[2] "rheumatoid arthritis is a generalized disease that may affect with varying frequency the lymph nodes, spleen, bone marrow and many other tissues besides the articular structures." A study of tissue changes in cases of hemolytic streptococcus infection in man led Mallory and Keefer[3] to suggest that "the rheumatic process is but one manifestation of streptococcus injury."

Warter et al[4] suggested bacterial toxins or other toxic agents as contributing etiologic factors which produce an increasing tendency to spontaneous petechiae and ecchymosis in rheumatoid arthritis. It was shown by Manwaring and Boyd[5] that certain bacterial toxins so affect the capillary endothelium of the perfused heart as to produce marked edema and hemorrhage of the myocardium, dilatation of the tissue spaces and extravasation of numerous red blood cells. They concluded that, "disturbances of the circulation undoubtedly constitute a certain proportion of the underlying pathologic changes evidenced in rheumatic and arthritic changes."

Increased capillary fragility was observed by Brown and Wasson[6] in children with rheumatic fever. Epstein and Greenspan[7] believe capillary fragility and permeability to be the physiologically basic lesions in rheumatic fever.

In addition to the possible role of bacterial toxins or toxic agents as etiologic factors, the physicians must recognize the fact that rheumatoid arthritis, as well as any unusual physiologic stress, predisposes to a nutritional breakdown, resulting in a deficiency of elements essential for the patients' well being. Such deficiencies undoubtedly tend to impair the resistance of the endothelial cells so they cannot function normally as a barrier.

Vitamin C avitaminosis has been reported as a possible causative factor in capillary fragility. According to Dalldorf[8] ascorbic acid is an essential nutrient required for the normal deposition and maintenance of intercellular substances.

Eddy[13] believes that the so-called country rheumatisms developing at the end of a long winter "were actually hemorrhagic joint conditions produced by vitamin C deficiency."

Warter et al[1] observed no correlation between capillary fragility as measured by the cuff pressure test and plasma vitamin C findings. These findings confirmed those reported by a number of other investigators. [9] [10] [11] [12]

Rusznyak and Szent-Gyorgyi[14] [15] postulated that cellular vitamin C was accompanied by a substance of similar importance and related activity. Since they found this substance associated with capillary permeability, they named it "vitamin P".

HESPERIDIN AND CAPILLARY PERMEABILITY

Beneficial effects of lemon juice and extracts of Hungarian red pepper were observed by Aramentano et al[16] in a number of cases of purpura hemorrhagica which had failed to respond to large doses of pure ascorbic acid. Seeking the active principle responsible for these favorable results, a crystalline flavone substance, which was shown to be physiologically active, was isolated from orange juice and named "citrin".

Chemical studies by Bruckner and Szent-Gyorgyi[17] showed "citrin" to be a mixed crystalline composed largely of hesperidin and smaller amounts of eriodictyol glucoside. Chromatographic observation studies by Robeznieks[18] indicated that "citrin" contained a third quercitrin-like flavone in addition to hesperidin and eriodictin.

Hesperidin is a flavanone glucoside occurring in most varieties of citrus fruit. Pure hesperidin occurs in long hair-like colorless needles, easily soluble in dilute alkali, and in pyridine, slightly soluble in methyl alcohol and in hot glacial acetic acid. It is almost insoluble in acetone, benzol and chloroform. Hesperidin, in common with other flavanone glucosides, has the property of forming crystals with other similar glucosides, which greatly affect its solubility and other physical properties.

From a review of literature regarding the physiological significance of a flavone mixture, citrin or vitamin P, Lindheimer et al [19] stated: "Human clinical studies show that citrin has a definite effect in improving low capillary resistance in various conditions whether of known dietary origin or not; this effect on the capillaries is accompanied by a therapeutic effect on certain hemorrhagic diseases, in petechial hemorrhagic conditions caused by dietary deficiency and perhaps in numerous other types of clinical conditions. A synergism of vitamin C and P is suggested by some of these studies, whereas other indicate that vitamin P acts by itself."

Hesperidin was used in lowered capillary resistance resulting from generalized vitamin deficiency with uniformly successful results;[20] in cases of toxic purpura and toxic erythema[21] and in the treatment of purpura resulting from arsenicals in treatment of syphilis.[22]

Scarborough[23] observed that hesperidin and hesperitin preparations from orange meal increased capillary resistance in man when given by mouth. Restoration of fragility of capillaries to normal with hesperidin and hesperidin methyl chalcone was observed by Griffith and Lindauer[24] in 84 per cent of cases of increased capillary fragility.

It has been suggested that vitamin P might not really be a true vitamin in the sense that a deficiency in the normal person would result in disease, but that the flavone substance, supposedly being active in lessening capillary fragility may in reality be a detoxifying substance which in persons subjected to such toxins as those from hemolytic streptococci, would lessen their harmful action.

Whether hesperidin itself is actually vitamin P or whether it is merely a precursor which forms the vitamin in the digestive system is not yet known.

We believe it is essential for the absorption and retention of vitamin C, acting synergistically in maintaining normal capillary resistance.

CAPILLARY RESISTANCE IN RHEUMATOID ARTHRITIS:

In a group of forty rheumatoid arthritis patients in whom capillary resistance was measured by the positive pressure test suggested by Wright and Lilienfeld,[24] we found sixteen with borderline capillary fragility, twenty-five with severe capillary fragility and only one patient with normal capillary fragility. Since the time factor in the suggested procedure made a number of the patients apprehensive, we modified the test by reducing the cuff pressure time from fifteen minutes to seven minutes without any apparent variation in our final observations.

The degree of capillary fragility was based on the average number of petechiae noted in each of two circles about 2.5 cm. in diameter located about 4 cm. below the antecubital fossa after the cuff pressure, the mean between the systolic and diastolic pressures, had been maintained for seven minutes. An average of ten or less was considered normal; ten to twenty, borderline; twenty or more abnormal (positive) capillary fragility.

The decrease in the capillary tonus in rheumatoid arthritis patients, as a result of bac-

terial toxins from some focus of infection, possible nutritional deficiency of essential elements, trauma, or as a result of certain therapeutic agents, deserves consideration as a possible factor in the edematous manifestations about the joints of these patients. It has been our experience that a majority of patients exhibiting severe capillary fragility were those with painful and swollen joints.

The physician's objective in the treatment of rheumatoid arthritis is to restore the patient to general good health and gainful activity as quickly as possible, and to make every effort to prevent recurrences. In a large percentage of patients, this objective can be attained by sound medical judgment in treating the patient as a whole, rather than only the articular manifestations; genuine cooperation of the patient, and the help of God. Restoration of abnormal capillary fragility to a normal state should be one of the objectives in the over-all treatment of rheumatoid arthritis patients.

PROCEDURE OF CLINICAL INVESTIGATION:

In approaching the clinical evaluation of hesperidin-C, in rheumatoid arthritis patients, we concerned ourselves primarily with the influence this combination would have on abnormal capillary fragility.

The degree of capillary fragility in each patient was determined by the positive cuff pressure test, we have described, before hesperidin was prescribed. Sedimentation rate and hemoglobin determinations were made at frequent intervals in addition to red and white cell counts.

Forty rheumatoid arthritis patients with manifestations of abnormal capillary fragility have been treated and observed for three months to twenty-four months. We divided these patients into three groups.

GROUP I—TWENTY-SEVEN FEMALES AND THREE MALES:

We placed into this group five patients who had been on hesperidin 100 mg. tablets, given twice daily, for four months. Three of these showed an improvement and two were moderately improved.

Four patients who had been on vitamin C 100 mg. tablets, two tablets daily, for four months. One was benefited, and three showed no apparent response to this therapy.

The above nine patients were transferred to a group of ten patients receiving hesperidin 50 mg. combined with vitamin C 50 mg. in tablet form. These patients have been on this therapy for a period of twenty-four months.

A group of eleven female patients have been maintained on hesperidin-C for a period of twelve months.

All of these patients were given hesperidin 50 mgs. combined with vitamin C 50 mgs. four times daily for six weeks. If a patient showed no appreciable improvement in the capillary fragility within this time, the dose was increased to six tablets daily, and if no improvement was manifested within another six weeks, the therapy was discontinued.

GROUP II—THREE FEMALES AND TWO MALES:

This group received lemon peel infusion concentrate 200 mg. tablets (representing 10 grams of fresh lemon peel), three tablets daily, one after each meal. The arthritis in one of the male patients was complicated by a generalized psoriasis. Four patients have been on this therapy for eight months and one patient (psoriasis) for four months.

GROUP III (CONTROL)—MADE UP OF TWO GROUPS OF FIVE PATIENTS EACH:

One group on high vitamin D and B complex capsule therapy, and a second group on protein hydrolysate combined with B complex factors. These groups were followed for a period of three months.

Clinical Observations and Results:

Group I: In this group of thirty patients, eighteen patients or sixty percent showed normal capillary fragility; nine patients or thirty percent were borderline and three patients or ten percent showed no apparent improvement after six weeks. The nine patients with borderline capillary fragility manifested normal capillary resistance on an average of three more weeks of therapy. The dose of hesperidin-C was increased in the three patients, but no appreciable improvement was noted after an additional six weeks' treatment.

Although normal capillary resistance was apparently established in these twenty-seven patients, fluctuations were observed in three patients as a result of emotional stress, large doses of acetylsalicylic acid in two patients; and amphetamine sulfate in two patients. Three patients developed severe upper respir-

atory infections with a subsequent decreased capillary resistance.

The withdrawal of the drugs resulted in a return to normal capillary resistance. The patients with emotional stress and upper respiratory infections required an increase in the dose of the hesperidin-C which readily increased and controlled the capillary resistance.

Every effort should be made to eliminate such conditions as emotional stress, certain drugs and infections, acute or chronic, which cause an excess requirement for the vitamin or vitamin-like substance; until this is accomplished, larger doses must be supplied in order to maintain capillary resistance.

In this group the sedimentation rate was not influenced in either direction; nor was there any apparent effect on the hemoglobin and the red and white cell counts.

Group II: Four patients in this group receiving lemon peel infusion concentrate, showed an increase in capillary resistance within four weeks, and became normal in twelve weeks on three tablets of 200 mgs. each of lemon peel infusion concentrate. The psoriatic patient showed some improvement in the psoriasis which was more apparent than real. One patient manifested no improvement, and therapy was discontinued after twelve weeks.

The larger dose of lemon peel infusion concentrate required a longer time to establish normal capillary resistance than was observed in Group I with smaller doses of hesperidin-C.

Group III—Controls: In both the high vitamin D—B complex group and the protein hydrolysate—B complex group, there was no apparent beneficial influence on the capillary resistance after a period of three months. We did not proceed any further with this group in regard to this study.

The patients in the vitamin D-B complex treated group showed no change in their sedimentation rates, hemoglobin values or red and white cell counts.

In the protein hydrolysate-B complex treated group, the patients showed a gain in weight, a reduction in the sedimentation rate, an increase in the hemoglobin and red cell count.

SUMMARY

1. Abnormal capillary fragility can be demonstrated in a large percentage of rheumatoid arthritis patients by means of the positive cuff pressure test.

2. Various factors, such as, infections, either acute or chronic; nutritional deficiency; drugs or chemicals; emotional stress, trauma, produce a tendency to abnormal capillary fragility.

3. A combination of hesperidin 50 mg., a flavanone glucoside, and ascorbic acid 50 mgs., was found to be effective in restoring abnormal capillary fragility to normal state in ninety percent of the patients treated.

4. Lemon peel infusion concentrate, 200 mg. in each tablet (representing 10 gms. of fresh lemon peel) restored abnormal capillary fragility to normal, but required a longer time and larger doses as compared to hesperidin-C.

5. Fluctuations in capillary resistance, due to acetylsalicylic acid, amphetamine sulfate, emotional stress and severe upper respiratory infections, were observed in some of the patients. Withdrawal of the drugs resulted in a rapid return to normal resistance. An increase in the hesperidin-C dosage in the emotional stress and upper respiratory infection cases controlled and maintained normal capillary resistance.

6. High vitamin D and B complex therapy did not have any influence on capillary fragility in the small group of patients used as controls.

7. Protein hydrolysate with B complex did lower the sedimentation rate and favorably influenced the hemoglobin and red cell count, but there was no apparent beneficial effect on the abnormal capillary fragility.

COMMENTS

We suggest that hesperidin, a flavanone glucoside occurring in most varieties of citrus fruits, is essential for the absorption and retention of vitamin C, acting synergistically in maintaining normal capillary resistance.

The correction of abnormal capillary fragility in rheumatoid arthritis patients should be considered as only one of the phases to improve all angles of the patients' condition. This phase of treatment may enhance the efficacy of other instituted therapeutic procedures.

N. B. The Hesperidin-C and Lemon Peel Infusion Concentrate were supplied by the National Drug Company, Philadelphia 44, Pa.

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PRESENT TRENDS IN PREPAYMENT MEDICAL AND HOSPITAL PLANS*

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Wilmington, Del.

In 1943 the medical profession of Delaware entrusted the operation of a proposed prepayment plan for surgical care to the Blue Cross Plan. The Blue Cross of Delaware, both its Board of Trustees and its operating staff, was and has remained very conscious of the confidence you doctors thus placed in the Plan. We have taken our responsibilities very seriously. We feel it necessary to report from time to time on the progress of the surgical plan, its relationship with the hospital plan, and the problems immediately confronting it.

This necessity is particularly apparent at this time. Every month that adds to our experience with prepayment of medical and surgical care points very clearly to one fact. In giving supervision over the surgical plan to our organization you have given to Blue Cross a series of responsible administrative functions. But *no one of you* can divest himself, voluntarily or otherwise, of the ultimate responsibility for the success or failure of the Plan.

Probably this sounds trite. Doctors have been ready and willing to acknowledge their ultimate responsibility for the success of the hospital plan. The comparatively large acceptance and sound financial condition of the plan is ample testimony of this personal sense of responsibility. This is true, also, in the surgical plan. Individually and as a group you physicians of Delaware have, since the plan started, been cooperative beyond our most optimistic expectations. This record of cooperation in the surgical plan Dr. Bird, your retiring President, will tell you is the envy of most Plan administrators.

Let's take some of the good part of the record made to date by the surgical plan. Membership gain, for example, is more than just a business of public relations. It points to public confidence, public interest, and a desire on the part of the public for participation. The Blue Cross hospital plan has taken 12 years to secure a membership of 145,500 members, 53% of the population of the state of Delaware. This is third highest in the United States. The surgical plan, starting in 1943, 4½ years ago, has 122,500 members in Delaware, 44% of the state population; by far the largest percentage of enrollment in any state, or province of Canada. In the event that some of you have begun to mistrust yourselves, after listening to the proponents of the Wagner-Murray-Dingell Bill, I hope that this is reassuring evidence that maybe you were right after all in believing that the public has confidence in the organization and essential integrity of American medicine.

How is it working for you doctors? Well, consider the mere fact that 2400 claims a month, approximately, clear through the offices

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of the Plan. Approximately 44% are for surgery, 31% for x-ray, 25% for anesthesia. Consider that we are paying an average of $64,000 per month to you doctors for the services rendered to these Blue Cross patients. Think for a moment that, if you present your bill promptly, payment in those 2400 cases is made promptly, requiring a minimum of bookkeeping and accounting on your part, producing certain payment. In many cases payment comes in for patients who hitherto would have meant months of collection difficulties if payment was ever received. There are several among you, I feel sure, who will testify that our present national prosperity and high wages are not the only factors which account for the relatively improved financial situation of the doctors in Delaware.

So much for the bright side of the picture. From the standpoint of the doctor and the standpoint of the patient everything is fine. Only one criticism exists on the part of both. Some of you doctors and a great many more of the public that now is so enthusiastic about your surgical plan want to know when we are going to enlarge its benefits. They specifically want to know when we are going to cover home and office calls in medical cases. Some are interested in additional coverage of diagnostic procedures, such as laboratory, etc. I think both you and they sometimes wonder why we move so slowly.

The answer to that is in the less encouraging side of this report. From January 1947 through September 1947 the surgical plan lost $67,000 of its reserves. Its position is still sound financially, with approximately $147,000 in reserve. We could carry these losses for about one year. But that is not the significant fact. What is significant is shown in a few basic figures which explains this loss and which throw into our program a warning note of caution. They explain why we are loath at this time to consider additional services, and why now our chief concern is to be able to maintain the services we are offering.

Here are a few examples of what I mean. X-ray coverage has produced 52% more cases in 1947 per 1000 members than in 1945. For every 1000 members there were 39% more cases of anesthesia than in 1945. In gynecology there were 43% more, while a greater increase was registered in obstetrics. This latter was, of course, understood and accepted as a relatively temporary increase in hospitalization.

But the same is not so for x-ray and anesthesia. Whether or not these are likely to continue at the same level as we are experiencing them in 1947 is a matter of serious concern to the Plan's staff. It should be of similar interest to the physicians. What to do about such high utilization is a problem. Certainly the public wants those services. The Plan wants them continued, too. I feel sure that the anesthetist and the roentgenologist also feel that they are a logical and proper part of the program. For the moment I leave this dilemma with you.

But increase in incidence of cases is not strictly confined to the few items above mentioned. Our total number of cases per 1000 members per year in the surgical plan increased through the years 1945 and 1947 from 168 to 248, figures which are duplicated to a great extent throughout the country. It is interesting to note, however, that while our cases are increased 80 per 1000 members per year, an increase of 48%, our cost per member increased 50%. This discrepancy, you can see, points to some increase in expense of services, item by item.

Not long ago, through mere accident, we discovered that a member of our Plan had been treated by a physician in the patient's home, the entire treatment, in this instance, consuming less than 15 minutes. The physician was unaware at the time that this was a Blue Cross case. He was not the family physician and settled at that time for a sum of less than $5.00. The only other contact this patient had with this particular physician was over the telephone the following day, at which time advice was sought and the patient informed the physician that the family was covered under Blue Cross hospital-surgical protection. Your surgical plan promptly received a bill for the amount this procedure called for on our schedule, which was a maximum of $50. In addition, the statement of services by the physician made it clear that the patient was also being charged an extra sum, even though

the case had been settled through a cash transaction at the time service was rendered.

We have what we believe is the most up-to-date, accurate, and generous Fee Schedule of any group in the country. We spent several thousand dollars in time of our staff here in trying to iron out deficiencies which had become apparent in the last three years, and in seeing to it that it becomes not only a value to the Plan in facilitating adjustments with participating physicians but serves the purpose of establishing what might be called an average basis of charges for the surgeons of Delaware. We are aware (in this case painfully so) that in certain instances this schedule provides payment disproportionately large in certain instances where the procedure involved is more simple than is usually the case with this particular condition. Where advantage is taken of this fact and too large a fee is charged for the service rendered a case of this kind puts a severe strain on public confidence and an unnecessary and hazardous cost on the Plan.

It is, of course, impossible for us to say "Was the job you did a hard one?" or "Was this simpler than usual?" and then assure you doctors that we will adjust the payment to you according to this procedure. You would not like it. Neither would we. So we have to set the fees higher than in some cases the procedures would jusify, relying on your individual integrity to help us handle situations departing from the normal. We've seen many instances where doctors have charged less than the fee schedule for this reason. Most of you cooperate in a way which is beyond criticism. But it is evident that some cases of the kind cited above do an injury to the Plan, the public, and the physicians.

We need your help in this. We find it impossible to always control such situations and to come across them without occasional hints as to where trouble might lie or what individuals we might straighten out on their attitude toward the Plan. But I can assure you that if you have a medical plan, this control among yourselves becomes even more important. The responsibility you yourselves must assume. In the case I cited above I immediately took steps to rectify the situation and a settlement was made that was satisfactory to the Plan, if not to the physician involved. We shall continue to take this position, backed by the judgment of the physicians on our Board. If it is necessary to act drastically it will be done with only one thought in mind—the preservation of the best possible plan for the people and for the physicians of Delaware.

The important thing to get across to you is just how vital the doctor is in protecting both of these plans which have proven to be of such value to you individually. You are the men who regulate the length of stay in the hospitals. Our Delaware hospital stay is somewhat high, compared to the national average for Plans of our size. For example, among Plans of 100,000 to 200,000 participants (14 in number) the average length of stay during the month of July 1947 was 6.47 days. In the Delaware Plan this was 7.53 days. The Delaware Plan has maintained and continues to maintain a relatively high length of stay as compared to many other areas in the United States and Canada.

You have control over medicines, over the extent of laboratory services, over the x-ray and anesthesia, as I mentioned to you before. You have particularly before you the problem of bringing to the newcomers of Delaware, and to members of your profession who have less understanding of the Plan, just what its importance is, and what these problems are that concern it.

I know that we are touching on a very ticklish situation. The thing fartherest from our minds is to in any way diminish or eliminate services needed by a patient for proper worry-free recovery. We are fully aware that it is an impossibility for you and for us to eliminate all abuse. Some abuse is intentional. A great amount of it is unintentional and due to misunderstanding. It is the abuse that is due to misunderstanding that we can control best and where I think we all need to start.

The title of my talk is "Present Trends in Prepayment Medical and Hospital Plans." It carries the implication that I was to talk about a national situation. It's quite true that I seem to have become lost in our own particular Delaware problems. I can get back to base quickly, however. This is a problem which is

not at all peculiar to Delaware. Every Plan with which I have discussed this situation is going through the same general trend. New York City is giving serious consideration to increasing the rates for the medical plan operated there in conjunction with Blue Cross. Almost all hospital plans show a reflection in their increased cost of operation not entirely based on a greater incidence of cases but due in other factors. It all points to the public having to pay more for both hospital and surgical care in the very near future.

We in the business of offering medical and hospital care on a prepayment basis have a vital stake in keeping these costs to the public as low as possible. Higher prices may mean pricing some members out of the Plan. Those we lose will be the people who most need it—the store clerk, mill or factory worker—the person least likely to be able to pay you when the need arises for care. Above all we don't want present prosperity to dim our view of the future and run the risk of reverting to conditions of the '30's.

I know that the public, obviously not very happy about our prospective increase in rates, nevertheless knows the reasons back of it. They are resigned to another instance of the ever inflationary spiral. But there is the immediate necessity of meeting this present situation honestly, conscientiously, and with a degree of cooperation on the part of each individual that will leave no room for proponents of Federal medicine to say "I told you so" and to point to the Wagner-Murray-Dingell Bill as the way in which the public can relieve itself of excessive costs for your services and those of the hospital.

The other day at the Hospital Association of Delaware meeting we discussed this problem. We realize that the public knows too little about the hospitals. We realize it knows too little about the Blue Cross Plan and how its relationship with the hospitals works to provide the benefits that today they take so much for granted. We know that the public knows far too little about where the medical profession enters this picture and we know, of course, that the complexities of the program as it presents itself to us as I've tried to suggest them to you here today are just over their heads.

But what is even more important, we realize that the hospitals and the doctors and the Plan up to now have worked in a manner which perhaps was not as efficient as it should be. We realize more than ever that this relative inefficiency is not due to lack of the proper intentions, to lack of enthusiasm or the individual integrity of physicians, hospitals or the public. We realize, instead, that this is a matter of understanding; that too many doctors fail to understand the importance of their part in this program. Too many of them feel that it is a question of "Let George do it." Too many of them feel that hospital administrators are busy hampering the medical profession with unnecessary and what they consider foolish restrictions. I think hospital managers probably could be discovered who might for themselves wonder among other things why doctors had their favorite proprietary medicines, too many times the same thing with only a different label, while medicine utilization among plan members soared about 100% between 1945 and 1946.

I think all of us are coming to the conclusion that only by hanging together can we avoid hanging separately. With this as a fundamental concept, the Delaware Hospital Association has voted a plan through which it is hoped some individual capable of doing a job as the job should be done, either on a part-time or full-time basis, will be able to spend the next several years in a program designed to bring together more closely in a more unified and effective way the work of the doctors, the hospitals, and the Blue Cross Plan so that it will best serve the public. This individual, it is anticipated, will be responsible for interpreting the activities of the medical and hospital profession, and to tell how these services have been brought to the door of the average citizen through the economic concept of Blue Cross.

We hope that you as individuals and as a group will go along with us in a program of this kind. I sincerely hope that you will look on some of the problems I've presented to you today as only the scratchings of the surface, and that you will begin to think back over your own experience, having in mind the way that you can best serve yourself by producing the best possible service from the medical pro-

fession. If you do that, I feel that no system of government medicine yet devised can equal the service that you yourselves have in your power to render through prepayment on a voluntary basis. Moreover, I feel sure, and I know that you feel sure, that from your own standpoint this would be an infinitely preferable course.

DISCUSSION

DR. V. D. WASHBURN (Wilmington): There are connected with the three general hospitals in Wilmington, non-sectarian hospitals, approximately 100 persons, men and women, public-spirited persons, who, with no other compensation than that of the consciousness of having done their work well and in the public interest, serve. These 100 people, more or less, serve as directors for these three hospitals. I would venture to say that it is probable that not more than one doctor in ten who is serving as a member of the staff in any one or more of these hospitals is able to name more than one person in ten who is serving as the director of his hospital. And I dare say the average may be even less to their being personally acquainted with the men and women who are responsible for the administration and operation of these institutions in which we spend so much of our time and for whose services as directors we are so immensely indebted. These hospitals, including the institutions under religious control, represent big business. They spend well in excess of $2 billion per year. They admit possibly between 20 and 25,000 persons per year to the ward rooms of those institutions. They employ many hundreds of people, technically trained, of one sort or another and laymen and yet I am certain I speak with authority when I say that most of us who work in those institutions are neither personally acquainted with those who are so responsible or even know the names of many of them.

I speak of this only that I may emphasize the fact that we as doctors who, in the language of the speaker, entrusted the administration and the operation of the surgical plan to the Group Hospital Service, Inc., making clear and unmistakable the fact that we are responsible for their having taken over this plan and administration, are yet so unfamiliar with so many of the details as has been pointed out by Mr. Maybee in his paper here this morning. I dare say that many of us are unaware of the fact that the administration of the hospital plan, and indeed the administration of the surgical plan is directly influenced, indeed on some occasions directly, made to do certain things through the elected representatives of the medical profession. You may or may not recall that when the group hospitalization was initiated it was carefully provided that each hospital staff should have the privilege of electing a representative to serve—I will use the term Blue Cross—and that provision has been jealously guarded so that your representatives are not selected by the Board of Directors, nor do they have the privilege of veto, nor does, as a matter of fact, the Board of Directors of the Blue Cross have the power of veto over those who shall come to them from the hospital staffs. All that they demand is that the man who has been elected shall attend the meetings and shall serve, and yet in spite of the direct intent, direct responsibility, in spite of the fact that this affects each and every one of the members of this Society personally daily in one way or another, either because our patients by virtue of being hospitalized and being patrons of the Blue Cross have part of their hospital bill paid and thus have some money left over with which to pay our fee, or whether perchance we are in position to render some kind of service where we will be directly compensated, in spite of this fact that we are directly concerned, that it is our responsibility, and it does affect us individually, it is possible for Mr. Maybee to have said that we have not functioned as efficiently as we might have and that the reason for that was probably because of lack of understanding or lack of knowledge.

He has pointed out that there is a third party in interest here. He has spoken of the hospital management. We have spoken of it ourselves. This is this business of relations with the public, this public relations. I asked a public relations professional man in New York a few weeks ago what was his definition of public relations and his answer was, "Making people like you."

Well, I am very sure that we should pay great attention, give thoughtful consideration

to the paper that has been presented this morning, that we may clearly understand that this problem is of vital importance to us and that in general it is not sufficient for us to have permitted those people who are responsible for the operation of hospitals to live in a separate compartment, not knowing them, not being familiar with their plans, nor is it sufficient for us to delegate to our representatives and know very little about the operation of the Blue Cross or the relations to the public or to our pocketbooks. I submit that we are living in a changing world, not only in the body politic, but as well in the practice of medicine, and that it behooves us to take a more personal interest not only in seeing to it that we personally know our directors better and our public better, but we individually by a practice of high ethical concepts do the things that should be done, and the things that shouldn't be done do not creep in, and that hospital patients are discharged as promptly as may be, and that while no one shall be denied proper x-ray or other diagnostic features, that we will personally in our daily lives and administration see to it that these things shall be administered efficiently on every occasion every day.

And finally let me say that I think the medical profession has been singularly fortunate in the character of the management and the administration in general and in the conduct of the Managing Director of Blue Cross. In particular, we have benefited by the public spirited and loyal discharge of their obligations to us of the directors of the Blue Cross, who serve without compensation. This is all a matter of public service on the part of the hospital directors and the management of the Blue Cross. We are, indeed, indebted to them for their splendid service.

DR. JAMES BEEBE (Lewes): I don't want to take up much of your time because the subject has been thoroughly covered by Mr. Maybee and Dr. Washburn, but as a delegate to the AMA for the past several years I know they lay a great deal of stress on these voluntary hospital prepayment plans. They say that is going to be our biggest weapon in dealing with the Murray-Wagner-Dingell Bill and some other bills of that sort, and if we give satisfactory hospital and medical service to the people in our state through these plans, then that will take away the demand from the people for these bills.

It is a grave question on the part of the AMA whether the demand comes from the politicians or the people. The Blue Cross has been spoken of by delegates whom I have come in contact with from other states. The Blue Cross in Delaware is apparently an ideal plan to these people. In the first place the physician's fee is not set. The Blue Cross pays $50, $75 or $100 toward the cost of an operation. The contract is between the surgeon and the patient. They merely reimburse the patient to take care of a certain portion of that case, and in other states that doesn't seem to be the case, especially in Pennsylvania. A prominent Philadelphian told me he could not sign up with the prepayment plan in Pennsylvania because it limited his fees, and he would rather do the work for nothing than to accept $100 as a fee that he should get $500 for, with his experience and capability. We are not limited in that way.

The hospital administration, through a change of staff rules, should limit these special services that are ordered for the patient beyond the needs of the patient. The younger men are prone to order an x-ray of a fracture two or three times a week. When I first started to treat fractures we didn't have any x-ray. We had to depend upon our clinical experience and ability. Now they can't treat a fracture without having an x-ray every other day. We have tried to limit that in our hospital by having the chief or somebody okay these orders for x-rays, and we have gotten it down to a reasonable point. The laboratory procedure the same way. We get a patient in with an acute asthma of some sort or some abdominal distress and they will order the works—gall bladder, barium, fluoroscope—and with very little physical diagnosis which would probably eliminate the reason for a number of x-ray series, etc. I don't want any one to suffer through lack of x-rays.

Those are just a few of the things I have found, Mr. Maybee, and our hospital is very, very willing to arbitrate when a question comes up. Blue Cross has been very fair with the hospitals downstate, and I am sure they have been here. We are very fortunate in having

the kind of Blue Cross which we have here.

Mr. Maybee and his associates, I am sure, realize that the cost of the hospitalization, the cost of the doctor's armamentarium, etc., have increased rapidly in the past five or ten years, therefore, they have got to pass this cost on to the individual, and I believe the individuals in the state will accept that cost because they are demanding the service.

MR. MAYBEE: I would like to make one comment only, and that is on Dr. Beebe's comment on the type of plan we have here which is the *indemnification* plan, as opposed to the *service-indemnity* plan, where for a certain group of people with certain specified salary limitations service must necessarily be given by the doctor without additional charge. That is the type of plan that now exists in Pennsylvania and to which Dr. Beebe referred.

It is an interesting commentary on the type of cooperation we have had from the medical profession in Delaware, that of all of the cases we have had since 1943, even though the doctor could charge more for services than the amount specified on the fee schedule, 66 per cent of all of our cases have been given coverage in full by the doctors. Only one-third of our cases have been covered with any extra charge being made to the patient. That I believe is probably a better record than many of the so-called service-indemnity plans can show, since they generally provide service to the patient only in income brackets of less than $3000 a year for the family.

It is also interesting to note that the Plan has covered 77 per cent of the total charges levied by the doctors in the state so that in general the average patient going in can be sure that the doctors of this state will cooperate to the extent where he will pretty nearly always come out without any additional charge. (Applause)

NATIONAL BLOOD PROGRAM OF THE AMERICAN RED CROSS

Close cooperation between the American Red Cross, medical societies, hospitals and public health officials will insure that bloood centers to be established under the new National Blood Program of Red Cross will not duplicate existing facilities.

Unlike the wartime blood collection program of Red Cross, where blood was procured exclusively for the armed forces, the new program will undertake to supply blood to civilian, veterans and U. S. Public Health hospitals as well as Army and Navy hospitals. Annual estimated needs are 3,700,000 pints, on the basis of five pints for each general hospital bed and one pint for each bed occupied by a neuropsychiatric or tuberculosis patient. As new uses for blood are discovered, this estimate may be increased.

Before a blood center is inaugurated a careful survey will be made to determine whether local blood needs are being adequately met. A medical advisory committee, appointed on the recommendation of the local medical society, will take part in these surveys. Centers will not be established until the medical society, the hospitals and public health officials are in agreement as to the need and until it has been determined that facilities are available to insure the successful operation of the center.

The Red Cross does not plan to locate centers in communities where needs are being adequately met by existing blood banks. However, in cases where existing blood banks desire to become integrated into the National Blood Program, efforts will be made for them to do so.

Four regional centers of a proposed national network are already in operation at Rochester, N. Y.; Wichita, Kans.; Stockton, Calif., and Atlanta, Ga. By January, 1949, it is expected that 50 additional fixed centers and approximately 60 mobile units will be functioning. Long range plans call for the establishment of 140 metropolitan centers, 250 centers to serve smaller cities and towns and from 600 to 800 mobile units to cover outlying suburban and rural areas. It is estimated that from three to five years will be required to reach this objective.

The new program is designed to meet the increasing needs for blood in modern medical practice. Blood will be collected from voluntary donors at centers and mobile units. It will be examined for safe medical use, labelled according to group, titer, Rh factor and expiration date of usefulness for transfusion. Proper refrigeration will be maintained from the time of collection until delivery. Before

blood reaches its expiration date of usefulness as whole blood it will be returned to centers for processing into plasma. Plasma processed at centers will be supplied to hospitals and physicians as needed.

Each center will have a technical director, a physician, appointed on the recommendation of the local medical advisory board. The technical director will be responsible for all the scientific and technical phases of the program. Both fixed centers and mobile units will be staffed by registered nurses who have had special training in the technique of venipuncture. Collecting and processing blood will be done under the most meticulous standards established by the national organization. These standards will be uniform throughout the country.

The Red Cross will bear the entire expense of collecting, processing and distributing blood. Blood will be furnished physicians and hospitals without charge. The only cost to a patient receiving the blood or plasma furnished by a center will be the medical or hospital fee in connection with its administration.

While the primary objective of the new blood program is to furnish essentially needed whole blood, it is ultimately planned to supply a variety of clinically proven blood derivatives. Once the program has reached a stage where sufficient blood is available, beyond the need for whole blood, a part of it will be diverted for fractionation. When the program reaches the fractionation phase, Red Cross will enter into contracts with reliable commercial laboratories for the processing of plasma, serum albumin, immune serum globulin, antihemophilic globulin and other derivatives of clinically proven worth.

Whole blood will be distributed directly to hospitals, but when derivatives are available in sufficient quantities for distribution, they will be made available to physicians through state health departments.

The new National Blood Program was launched by Red Cross after prolonged consultation with leaders in the American Medical Society, the American Hospital Association, the U. S. Public Health Service, the army, the navy and the veterans administration.

The technical and scientific phases of the program will be guided by the Blood and Blood Derivatives Committee of the Red Cross Advisory Board on health services. This committee is composed of leaders in the blood field, physicians, surgeons, biochemists and clinical pathologists. Its personnel is identical with that of the Blood and Blood Derivatives Committee of the Division of Medical Sciences of the National Research Council. The participation of this committee in the National Blood Program insures for Red Cross the most expert professional guidance to be found in the country.

The new program will provide strong reinforcement of the efforts of the medical profession to save lives and prevent suffering.

The toxicity of streptomycin now appears to be sufficiently great to deny use of the drug to those patients who are making satisfactory progress under conventional forms of treatment. At present, most experienced physicians prefer to reserve the limited supply for patients more acutely ill, and especially for those in whom the disease has been progressive during recent months, and no other treatment is likely to be effective. Streptomycin is of no lasting or significant benefit to patients who apparently have hopeless, destructive types of pulmonary tuberculosis. H. McLeod Riggins, M. D. and H. Corwin Hinshaw, M. D., Am. Rev. Tbc., Aug., 1947.

In regions where histoplasmin sensitivity is widespread, pulmonary infiltrations as well as calcifications are frequently nontuberculous, and can be differentiated from tuberculosis only by skin tests at present. Michael L. Furcolow, M. D., Herbert L. Mantz, M. D. and Ira Lewis, M. D., Pub. Health Rep., Dec. 5, 1947.

The tuberculosis patient who has not learned the practical facts of life concerning tuberculosis, who has not found a job and a way of living which are compatible with his individual case, can hardly look forward to a successful recovery and useful life. Paul R. Hawley, M. D., Bull. Am. College Surgeons, Sept., 1947.

FEE SCHEDULE FOR MEDICAL SERVICES — PART I

Submitted to Veterans Administration by Medical Society of Delaware

CLINICAL LABORATORY TESTS

0001—Red, white and differential blood counts including instrumental colorimetric hemoglobin estimation ..... $ 5.00
0002—Blood smear for malaria 2.00
0003—Urinalysis, routine chemical and microscopic 2.00
0004—Blood Wassermann (complement-fixation) 3.50
0005—Blood Kahn (precipitation) 2.50
0006—Venepuncture and procuring of blood for serology without serological examination 1.00
0007—Spinal fluid Wassermann (complement-fixation) 3.50
0008—Chemical examination of blood complete, including creatinin, urea, dextrose, nitrogen (or NPN) and uric acid 15.00
0009—Sputum examination for tuberculosis (plain smear) 2.00
0010—Determination of basal metabolic rate 5.00

VISITS AND EXAMINATIONS

0011—Examination to determine need of hospitalization 3.00
0012—Complete general routine physical examination including routine urinalysis 7.50

		Visits within city limits			
		First		Subsequent	
Day*	Office	0013	3.50	0014	2.50
	Home	0015	4.00	0016	4.00
	Hospital	0017	4.00	0018	3.50
Night*	Home	0019	7.00	0020	7.00
	Hospital	0021	7.00	0022	7.00

0023—Charge for mileage one way for day or night visit outside city limits in addition to appropriate fee 0.75
*Day ..... 8:00 a. m. — 7:00 p. m.
*Night ..... 7:00 p. m. — 8:00 a. m.

EXAMINATIONS BY SPECIALISTS

0024—General surgical 7.50
0025—Orthopedic 7.50
0026—Complete examination of heart, including electrocardiogram 15.00
0027—Electrocardiogram with interpretation 10.00
0028—Physical examination of lungs 5.00
0029—Roentgenological study of chest 10.00
0030—Gastrointestinal, including barium meal and enema, X-ray and fluoroscopy with preliminary KUB film 35.00
0031—Dermatological 7.50
0032—Allergy investigation including history, physical examination, relevant laboratory procedures (skin tests, smears of sputum and nasal secretions, vital capacity, etc.) and report 30.00
0033—Diagnostic skin tests only, intradermal or scratch, 40 extracts 15.00
0034—Each additional intradermal or scratch test 0.25
0035—Genitourinary examination without cystoscopy including prostatic smear and urinalysis 10.00
0036—Genitourinary examination with cystoscopy 25.00
0037—Gynecological 7.50
0038—Proctological (rectal speculum) 5.00
0039—Psychiatric examination—One hour (50-60 minutes) 10.00
0039A—Each half hour (25-30 minutes) additional to original 60-minute hour 5.00
0040—Neurological examination—One hour (50-60 minutes) 10.00
0040A—Each half hour (25-30 minutes) additional to original 60-minute hour 5.00
0041—Examination of ears, nose and throat 5.00
0042—Special ear examination, including audiometric test with chart 10.00
0043—Special ear examination, including caloric or Barany test with audiogram and report 20.00
0044—Examination of eyes with refraction, manifest or cycloplegic, to include either a copy of the prescription ordered as a report of the refractive error and fundus findings, as well as a report of abnormalities found 10.00
0045—Examination of eyes with refraction, manifest or cycloplegic, to include either a copy of the prescription ordered or a report of of the refractive error and fundus findings, together with a report of the **visual field findings** (the latter by chart if the field is abnormal) 12.50
0046—Examination by internist to determine diagnosis 15.00

OUT-PATIENT TREATMENT BY SPECIALISTS

0047—Dermatological: First visit 5.00
0048—Dermatological: Each subsequent visit 3.00
0049—Ear, Nose and Throat: First visit 5.00
0050—Ear, Nose and Throat: Each subsequent visit 3.00
0051—Ophthalmological: First visit 5.00
0052—Ophthalmological: Each subsequent visit 3.00
0052A—Other comparable specialties: First visit 5.00
0052B—Other comparable specialties: Each subsequent visit 3.00
0053—Psychiatric treatment (Psychotherapeutic conference)
One hour (50-60 minutes) 10.00
0053A—One half hour (25-30 minutes) 5.00
0054—Neurological treatment (treatment is understood to be the usual follow-up care and observation after diagnosis has been made at original neurological examination) One hour (50-60 minutes) 10.00
0054A—One-half hour (25-30 minutes) 5.00

PART II

NOTE: The fees for surgical services listed herein include fourteen (14) days' routine post-operative care but are exclusive of hospital charges, clinical laboratory, anesthetists', and x-ray fees. Fees for visits and dressings after fourteen (14) days' completed post-operative care are the same as those listed as hospital, home and office visits in Part I of this fee schedule, Items 0013 to 0022, inclusive.

If two or more surgical procedures are performed **by the same physician** on the same patient concurrently or immediately successively, (e. g., repair of unilateral indirect inguinal hernia and operation for varicocele) the fee for the two or more procedures will be the greater or greatest fee plus one-half each smaller fee or fees. The fee for two or more such concurrent operations will never exceed twice the greater or greatest fee.

If two surgical procedures are performed **by two different surgeons** on the same patient concurrently or immediately successively (e. g., intervertebral disc operation and vertebral fixation), the fee for each surgeon will be seventy-five percent of the fee listed for each operative procedure.

SPECIAL SERVICES

Detention with patient in critical condition at home or hospital
0100—Per hour—8 a. m. — 7 p. m. 10.00
0101—Per hour—7 p. m. — 8 a. m. 10.00
Formal consultation* by specialists (in surgery, internal medicine, dermatology, ophthalmology, ear, nose and throat, radiology, anesthesiology and comparable specialties)
0102—**In office,** first visit 10.00
0103—Subsequent similar consultation or visit 5.00
Formal consultation by specialists (in surgery, internal medicine, dermatology, ophthalmology, ear, nose and throat, radiology, anesthesiology and comparable specialties)
0104—**In veteran's home or in hospital,** first visit 15.00
0105—Subsequent similar consultation or visit 7.50
0106—Surgical assistant's fee (allowed only in case of prior authorization by VA) ..... 10-15 AA
*See Page 2

EXAMINATIONS—SPECIAL (For diagnostic purposes)

ALLERGY

*0032—Allergy investigation including history, physical examination, relevant laboratory procedures (skin tests, smears of sputum and nasal secretions, vital capacity, etc.) and report 30.00
0033—Diagnostic skin tests only, intradermal or scratch, 40 extracts 15.00
*0034—Each additional intradermal or scratch test 0.25
0200—Patch tests (for contact dermatitis) each test 0.50
0201—Tests with bacterial extracts, e. g., brucellergin, coccidioidin, Frei test, each 2.00
0202—Sputum examination, cytological for eosinophiles 2.00
0203—Nasal secretion examination, cytological for eosinophiles 1.00
0204—Measurement of vital capacity 0.50

ENDOSCOPY

0210—Bronchoscopy, without biopsy 25.00
0211—Bronchoscopy, with biopsy 35.00
0212—Bronchoscopy, with removal of foreign body 50.00
0213—Bronchoscopy, subsequent to initial bronchoscopy 20.00
0214—Cystoscopy 25.00
0215—Cystoscopy, with ureteral catheterization or biopsy 35.00
0216—Esophagoscopy, with or without biopsy or dilatation 35.00
0217—Esophagoscopy, with removal of foreign body 50-100
0218—Esophagoscopy, subsequent to initial esophagoscopy with or without dilatation 20.00
0219—Gastroscopy 35.00
0220—Peritoneoscopy 35.00
0221—Proctoscopy 5.00
0222—Sigmoidoscopy 10.00
0223—Thoracoscopy, diagnostic, with or without biopsy 25.00

PARACENTESIS

0230—Paracentesis, abdomen, diagnostic 15.00
0231—Paracentesis, joint, diagnostic 10.00
0232—Paracentesis, pericardium, diagnostic 15.00
0233—Paracentesis, tympanum, diagnostic 10.00
0234—Sternal puncture, diagnostic 20.00
0235—Thoracentesis, diagnostic 10.00
**1421—Paracentesis, abdomen, therapeutic 5.00
***5520—Paracentesis, joint, therapeutic 5.00
****4311—Paracentesis, pericardium, therapeutic 5.00

*Also listed in PART I
**Also listed under SURGERY—ABDOMINAL
***Also listed under SURGERY—ORTHOPEDIC
****Also listed under SURGERY—THORACIC

*3407—Paracentesis, tympanum, therapeutic 5.00
**4325—Thoracentesis, therapeutic 5.00

GASTRIC TESTS

0240—Gastric chemical, routine, including test meal and withdrawal of stomach contents 5.00
0241—Gastric contents for acidity, by histamine 5.00
0242—Gastric contents for pepsin 3.00
0243—Duodenal contents for pancreatic ferments 3.00

TUBERCULOSIS

0250—Gastric wash for tubercle bacilli with smear (withdrawal of specimen by laboratory)..... 5.00
0251—Gastric wash for tubercle bacilli with smear (not including withdrawal of specimen) 3.00
0252—Gastric wash for tubercle bacilli with culture (withdrawal of specimen by laboratory)..... 7.00
0253—Gastric wash for tubercle bacilli with culture and virulence test 10.00
0254—Gastric wash for tubercle bacilli (withdrawal of specimen by laboratory) and with animal inoculation 12.00
***0009—Sputum examination for tuberculosis (plain smear) 2.00
0255—Sputum, smear for tubercle bacillus (concentration method) 5.00
0256—Sputum, culture for tubercle bacillus 7.00
0257—Sputum, culture for tubercle bacillus with virulence test 15.00
0258—Sputum, animal inoculation for diagnosis of tuberculosis with report of autopsy 10.00
0259—Tuberculin skin test (Mantoux) 5.00
0260—Urine, culture for tubercle bacillus 7.00
0261—Urine, animal inoculation for diagnosis of tuberculosis with report of autopsy 10.00

X-RAY PREPARATION

0270—Arteriography or phlebography including injection of contras medium but excluding X-ray fee 35.00
0271—Bronchography, including anesthesia and instillation of contrast medium but excluding X-ray fee 10.00
0272—Myelography, including operative preparation and removal of contrast medium but excluding X-ray fee 15.00

*Also listed under SURGERY—OTOLOGICAL
**Also listed under SURGERY—THORACIC
***Also listed in PART I

0273—Pneumoencephalography, including operative preparation but excluding X-ray fee 15.00
0274—Pneumoperitoneum 25.00
0275—Ventriculography, including operative preparation but excluding X-ray fee 50.00

AUTOPSY AND BIOPSY

Autopsy, with report
In VA hospital (histological technique performed by hospital staff).
0300—Excluding central nervous system 25.00
0301—Including central nervous system 35.00
Outside VA hospital (report includes histological preparation and examination)
0302—Excluding central nervous system 50.00
0303—Including central nervous system 75.00
0304—Biopsy, with report of histological examination 10.00

MISCELLANEOUS

0310—Electrical examination of muscles 10.00
0311—Electroencephalography with interpretation 20.00
0312—Intraocular tension 3.00
0313—Lumber puncture, including local anesthesia and obtaining fluid 10.00
0314—Physical examination diagnostic for physical or occupational therapy 10.00
*0045—Visual fields. Examination of eyes with refraction, manifest or cycloplegic, to include either a copy of the prescription ordered or a report of the refractive error and fundus findings, together with a report of the **visual field findings** (the latter by chart if the field is abnormal) 12.50

EXAMINATIONS—BACTERIOLOGICAL

0400—Animal inoculation for diagnosis, with report of autopsy 10.00
0401—Cultural examination for fungi 5.00
0402—Microscopic examination for fungi 2.00
0403—Pus or exudate (smear) 2.00
0404—Pus or exudate, cultural examination, classification 5.00
0405—Throat culture, classification of organism 5.00
0406—Throat smear 1.00
0407—T. Pallidum (dark field), initial examination 5.00
0408—T. Pallidum (dark field), subsequent examination 3.00

*Also listed in PART I

EXAMINATIONS—BLOOD

0600—Agglutination test for typhoid, paratyphoid, or undulant fever 3.00
0601—Bleeding time 1.00
0602—Blood culture, including classification 5.00
0603—Blood typing (grouping) 2.00
0604—Rh factor 2.00
0605—Coagulation time 1.00
0606—Sedimentation rate 2.00
0607—Estimation of sugar tolerance 10.00
0608—Van den Bergh blood test for icterus 2.50
0609—Volume index 3.00
0610—Blood calcium 4.00
0611—Blood chlorides 3.00
0612—Carbon dioxide combining power of blood plasma 5.00
0613—Cholesterol 4.00
0614—Creatinin 3.00
0615—Dextrose 3.00
0616—Non-protein nitrogen 3.00
0617—Blood phosphorus 3.00
0618—Urea nitrogen 3.00
0619—Uric acid 3.00
0620—Blood platelet count 1.50
0621—Total erythrocyte count 2.00
0622—Fragility test for erythrocytes 5.00
0623—Hemoglobin estimation, instrumental colorimetric 2.00
0624—Differential leucocyte count 2.00
0625—Total leucocyte count 2.00
0626—Reticulocyte count 2.00
*0001—Red, white and differential blood count including colorimetric hemoglobin estimation 5.00
*0002—Blood smear for malaria 2.00
*0004—Blood Wassermann (complement-fixation) 3.50
*0005—Blood Kahn (precipitation) 2.50
*0008—Chemical examination of blood complete, including creatinin, urea, dextrose, nitrogen (or NPN) and uric acid 15.00

EXAMINATIONS—FECES

0700—Cultural examination of feces for causative micro-organism (classification of organism).... 5-15
0701—Fat in feces (qualitative) 1.00
0702—Parasites and ova (concentration method)..... 5.00
0703—Occult blood 1.00

*Also listed in PART I

EXAMINATIONS—SPINAL FLUID

0800—Examination of spinal fluid for causative organism (smear) 3.00
0801—Cell count 2.00
0802—Colloidal gold reaction 5.00
0803—Total protein (quantitative) 3.00
0804—Sugar and chlorides (quantitative) ..... 3.00 each
*0007—Spinal fluid Wassermann (complement-fixation) 3.50
0805—Cultural examination of spinal fluid, including classification of causative micro-organism 5.00
0806—Globulin test 1.00
0807—Complete examination of spinal fluid, including complement-fixation test, colloidal gold, total protein, sugar and chlorides, globulin test and cell count 10.00

EXAMINATIONS—URINE

*0003—Urinalysis, routine chemical and microscopic 2.00
0900—Urinalysis, routine chemical 1.00
0901—Chlorides 3.00
0902—Creatinin 3.00
0903—Cultural examination including classification of micro-organism 5.00
0904—Hydrogen ion concentration 1.00
0905—Mosenthal test 3.00
0906—Total nitrogen (Kjeldahl) 3.00
0907—Renal function test (phenolsulphonephthalein) 3.00
0908—Urea nitrogen 3.00
0909—Uric acid 3.00
0910—Urobilin 1.00
**0260—Urine, culture for tubercle bacillus 7.00
**0261—Urine, animal inoculation for diagnosis of tuberculosis with report of autopsy 10.00

SURGERY—UNCLASSIFIED

1000—Abscess, deep (including ischio-rectal) 35.00
1001—Abscess, superficial or furuncle 5.00
1002—Adenectomy, cervical or inguinal (minor) 15.00
1003—Adenectomy, cervical or inguinal (radical) 150.00
1004—Anal fissure, operation for 30.00
1005—Breast tumor, small, benign, excision 50.00
1006—Breast, resection of, simple 75.00
1007—Breast, resection of, radical, including axillary nodes 200.00

1008—Carbuncle 25-50
1009—Cellulitis 25.00
1010—Depuytren's contracture 100.00
*Also listed in PART I
**Also listed under EXAMINATIONS—SPECIAL
1011—Fistula-in-ano, operation for 75.00
1012—Hemorrhoidectomy 50.00
1013—Ingrown toenail 15.00
1014—Thyroidectomy 150.00
1015—Ulcer, varicose, excision with skin graft 100.00
1016—Varicose veins, injection treatment, each injection 5.00
1017—Varicose veins, one leg, operation for 60.00
1018—Varicose veins, both legs, operation for 100.00

SURGERY—ABDOMINAL

1400—Abscess, liver, operation for 150.00
1401—Appendectomy 100.00
1402—Cholecystectomy, with or without cholecdochostomy 150.00
1403—Cholecystostomy 100.00
1404—Choledochostomy (secondary operation) 150.00
1405—Colostomy 100.00
1406—Fecal fistula, abdominal, operation for 125.00
1407—Gastrectomy (partial) 200.00
1408—Gastroenterostomy 150.00
1409—Gastrostomy 100.00
1410—Herniotomy, diagphragmatic 150.00
1411—Herniotomy, ventral 100.00
1412—Herniotomy, inguinal or femoral, unilateral 75.00
1413—Herniotomy, inguinal or femoral, bilateral 125.00
1414—Herniotomy, with intestinal resection 150.00
1415—Intestinal obstruction, operation for, without resection 150.00
1416—Intestinal obstruction, operation for, with resection 200.00
1417—Large bowel carcinoma, resection with or without preliminary colostomy 200.00
1418—Laparotomy, exploratory 100.00
1419—Laparotomy and drainage, general peritonitis 100.00
1420—Meckel's diverticulum, operation for 100.00
1421—Paracentesis, abdomen, therapeutic 5.00
1422—Pyloroplasty 150.00
1423—Splenectomy 150.00
1424—Ulcer, gastric or duodenal, operation for 150.00
1425—Vagotomy, abdominal 125.00
1426—Vagotomy, abdominal and gastroenterostomy 150.00

SURGERY—BURNS AND TRAUMATIC WOUNDS

BURNS

1800—First degree, less than 10% body surface 10.00
Second degree
1801—Less than 25% of body surface 25.00
1802—More than 25% of body surface 50–100
1803—Third degree burns, depending on the area involved 50-100

TRAUMATIC WOUNDS

1900—Incised, minor procedure (office type) 10.00
1901—Lacerated 10–25
1902—Punctured 10–25
1903—Foreign body removal 10-50

SURGERY—GYNECOLOGICAL

2000—Bartholin's gland, excision 35.00
2001—Bartholin's gland, incision 10.00
2002—Cervical polyp, curettage 50.00
2003—Cervic, amputation of (trachelorrhaphy) 75.00
2004—Cervix, cauterization 15.00
2005—Cervix, conization 20.00
2006—Cervix, repair of tear 40.00
2007—Colporrhaphy, combined, including perineorrhaphy 125.00
2008—Cul-de-sac, drainage 30.00
2009—Cystocele, repair of 75.00
2010—Dilatation and curettage 50.00
2011—Fistula, recto-vaginal 125.00
2012—Fistula, vesico-vaginal 150.00
2013—Hysterectomy, simple (supracervical) 150.00
2014—Hysterectomy, vaginal, including plastic repair 175.00
2015—Panhysterectomy 175.00
2016—Hysterectomy, with adnexa 150.00
2017—Labial tumors or cysts, removal of 40.00
2018—Laparotomy, exploratory 100.00
2019—Myomectomy, vaginal operation (intrauterine) 75.00
2020—Myomectomy, with laparotomy 125.00
2021—Oophorectomy, unilateral or bilateral 125.00
2022—Perineorrhaphy 75.00
2023—Perineorrhaphy, repair of cystocele or rectocele and trachelorrhaphy 150.00
2024—Rectocele, repair of 75.00
2025—Salpingectomy, unilateral or bilateral with or without oophorectomy 125.00
2026—Tubal inflation 15.00
2027—Urethral caruncle, removal of 15.00
2028—Uterine displacement, correction (laparotomy for suspension) 125.00
2029—Uterine polypi, removal with curettage 50.00
2030—Uterine prolapse, operation for, including perineal repair 150.00
2031—Vulvectomy, complete, with bilateral inguinal adenectomy 175.00

SURGERY—NEUROSURGERY

2300—Aneurysm, intracranial, operation for 200.00
2301—Auditory nerve section 150.00
2302—Brain abscess, excision of 150.00
2303—Brain abscess, primary tapping of 100.00
2304—Brain abscess, subsequent tapping of 25.00
2305—Brain tumor, operation for 200.00
2306—Carotid ligation for intracranial arteriovenous fistula or aneurysm 100.00
2307—Chordotomy 125.00
2308—Craniotomy, exploratory, bilateral (burr holes) 75.00
2309—Craniotomy, operative, unilateral 150.00
2310—Gasserian ganglion, posterior root section 150.00
2311—Gasserian ganglion, injection of alcohol 50.00
2312—Hematoma, extradural, operation for 150.00
2313—Hematoma, subdural, operation for 100.00
2314—Laminectomy 125.00
2315—Neuroma, superficial, resection of 50.00
2316—Nucleus pulposus or intervertebral disc, ruptured, extruded or crushed, operation for... 125.00
2317—Osteomyelitis of skull, excision of 150.00
2318—Peripheral nerve, suture or lysis of 125.00
2319—Prefrontal lobotomy 100.00
2320—Scalenus anterior syndrome, operation for 75.00
2321—Supraorbital nerve, evulsion of 50.00
Sympathetic nervous system, operations
2322—Unilateral resection 100.00
2323—Bilateral resection 150.00
2324—Presacral plexus resection 100.00
*0313—Lumbar puncture, including local anesthesia and obtaining fluid 10.00
*0272—Myelography, including operative preparation and removal of contrast medium but excluding X-ray fee 15.00
*0273—Pneumoencephalography, including operative preparation but excluding X-ray fee 15.00
*0275—Ventriculography, including operative preparation but excluding X-ray fee 50.00
*Also listed under EXAMINATIONS—SPECIAL

SURGERY—NOSE AND THROAT

2700—Abscess, oral (not to include dental or peridental 5-20
2701—Abcess, pharyngomaxillary space, external drainage of 100.00
2702—Abscess, peritonsillar 20.00
2703—Abscess, retropharyngeal 20.00
*0210—Bronchoscopy, without biopsy 25.00
*0211—Bronchoscopy, with biopsy 35.00
*0212—Bronchoscopy, with removal of foreign body 50.00
*0213—Bronchoscopy, subsequent to initial bronchoscopy 20.00
*Also listed under EXAMINATIONS-SPECIAL.
*0216—Esophagoscopy, with or without biopsy or dilatation 35.00
*0217—Esophagoscopy, with removal of foreign body 50–100
*0218—Esophagoscopy, subsequent to initial esophagoscopy 20.00
2704—Esophagus, dilatation of by means of bougies or sounds—office procedure, no anesthesia 5.00
2705—Fulguration or electrocoagulation of minor tumor of trachea or esophagus 50.00
2706—Laryngectomy (total) 200.00
2707—Laryngofissure 125.00
2708—Laryngoscopy, direct, with biopsy of tumor..... 30.00
2709—Laryngeal tumor, benign, removal by direct laryngoscopy 50.00
2710—Tracheotomy 75.00
2711—Ligation of jugular vein or carotid artery 75–100
2712—Nasal bones, fracture, reduction of 20.00
2713—Nasal polypus, removal of 25.00
2714—Nasal septum, submucous resection of 75.00
2715—Sinus, ethmoid, radical operation for, external or intranasal 150.00
2716—Radical external fronto-spheno-ethmoid operation 150.00
2717—Sinus, frontal, trephination 50.00
2718—Sinus, maxillary, intranasal anthrotomy (antrum window) 50.00
2719—Sinus, maxillary, radical operation for 100.00
2720—Sinus, sphenoid, intranasal drainage of (sphenoidectomy) 50.00
2721—Sinuses, accessory nasal, irrigation of 10.00
2722—Tonsillectomy, with adenoidectomy if indicated 40.00
2723—Adenoidectomy 25.00
2724—Turbinate bone, galvano-cauterization of 10.00
2725—Turbinectomy 25.00

SURGERY—OBSTETRICAL

NOTE: Complete maternity care, including prenatal and postpartum care, is not provided by Veterans Administration.

2900—Abortion or miscarriage 50.00
2901—Breast abscess, deep 30.00
2902—Caesarian section 150.00
2903—Delivery in pregnancy, excluding Caesarian 50.00
2904—Ectopic pregnancy, ruptured 125.00

SURGERY—OPHTHALMOLOGICAL

3000—Cataract, needling operation for 60.00
3001—Cataract, operation for 100.00
3002—Chalazion, operation for 10.00
3003—Corneal ulcer, cauterization 5.00

3004—Corneal transplant 150.00
3005—Ectropion, operation for 50.00
*Also listed under EXAMINATIONS—SPECIAL
3006—Entropion, operation for 50.00
3007—Entropion, cautery puncture or Snelling sutures 15.00
3008—Enucleation of eye, simple 75.00
3009—Enucleation of eye with implantation for restoration of orbit 100.00
3010—Evisceration of eye 75.00
3011—Foreign body, removal from conjunctiva 5.00
3012—Foreign body, removal from cornea, simple 5.00
3013—Foreign body, removel from cornea requiring dissection or curettage 10.00
3014—Foreign body, intraocular, removal with or without magnet 100.00
3015—Glaucoma, corneal paracentesis for 50.00
3016—Glaucoma, operations of all types for attempted permanent cure 100.00
3017—Hordeolum, operation for 5.00
3018—Iridectomy, non-glaucomatous 75.00
3019—Laceration of lid, suture of 25.00
3020—Laceration of globe, suture of 50.00
3021—Lacrymal duct, dilatation of 5.00
3022—Lacrymal sac, excision of 75.00
3023—Lacrymal sac, dacryocystorhinostomy 100.00
3024—Orbit, reconstruction of 100.00
3025—Pterygium, operation for 35.00
3026—Ptosis, operation for 75.00
3027—Retina, detached, operation for 125.00
3028—Strabismus, operation for 75.00

SURGERY—OTOLOGICAL

3400—Aural polypus, removal of 15.00
3401—Fenestration operation for clinical otosclerosis 300.00
3402—Mastoid, acute, operation for 125.00
3403—Mastoid, radical operation for 150.00
3404—Mastoidectomy, with lateral sinus drainage and with or without jugular ligation 250.00
3405—Mastoidectomy with facial nerve decompression, suture or graft 300.00
3406—Lateral sinus, secondary drainage of 150.00
3407—Paracentesis, tympanum, therapeutic 5.00

SURGERY—THORACIS

4300—Decortication for chronic empyema 150.00
4301—Decortication for hemothorax 100.00
4302—Esophagogastrostomy 200.00
4303—Esophagus, resection of 200.00
4304—Foreign body, removal from lungs 100.00
4305—Foreign body, removal from heart 200.00
4306—Gastrectomy, transthoracic 200.00
4307—Ligation of patent ductus arteriosus 150.00
4308—Lobectomy 200.00
4309—Mediastinotomy 100.00
4310—Oleothorax 10.00
4311—Paracentesis, pericardium, therapeutic 5.00
4312—Pericardectomy 150.00
4313—Pericardotomy (open drainage of pericardium) 100.00
4314—Phrenic nerve operation 35.00
4315—Pneumolysis, extrapleural 100.00
4316—Pneumolysis, intrapleural 100.00
4317—Pnuemonectomy 200.00
4318—Pneumonotomy 100.00
4319—Pneumothorax, artificial, first induction 15.00
4320—Pneumothorax, artificial, refill 5.00
4321—Pneumothorax, extrapleural 75.00
4322—Scaleniotomy 25.00
4323—Subphrenic abscess, drainage 100.00
4324—Thoracentesis, therapeutic 5.00
4325—Thoracoscopy, cutting pleural adhesions 75.00
4326—Thoracoplasty, each stage 75.00
4327—Thoracoplasty, Schede operation 150.00
4328—Thoracostomy, without rib resection 35.00
4329—Thoracostomy, with rib resection 50.00
4330—Thoracotomy, exploratory 75.00
4331—Tumor, thoracic wall, transpleural removal 150.00
4332—Tumor, mediastinal, removal of 150.00
4333—Vagotomy, transthoracic 100.00

SURGERY—TUMORS

ASPIRATION

4700—Cyst, superficial 10.00

FULGURATION OR ELECTROCOAGULATION

4701—Tumor, superficial 10.00
4702—Tumor (minor) of trachea, esophagus or bladder 50.00

EXPLORATION WITH BIOPSY

4702—Tumor, requiring a major operative approach including exploration, verification of existence, location and biopsy. This item applies particularly to major operative approach to chest, abdomen, head or brain when only biopsy is taken, but is also relevant to such **major** operation terminating in biopsy (rather than resection) in any location 100.00

REMOVAL, EXCISION, RESECTION OR OPERATION FOR

4704—Tumor or cyst, small, benign 50.00
4705—Cyst or sinus, pilonidal 75.00
4706—Cyst, sebaceous, small 10.00
4707—Cyst, sebaceous, large 15.00
4708—Cyst, thyroglossal 100.00
4709—Epithelioma, lip, tongue or face 50–150
4710—Epulis 25.00
4711—Papilloma, bladder 100.00
4712—Papilloma, external 10.00
4713—Tumor, abdominal wall 50–125

SURGERY—UROLOGICAL

5000—Circumcision, adult 25.00
5001—Cystectomy, complete 175.00
5002—Cystectomy, partial 150.00
*0214—Cystoscopy 25.00
*0215—Cystoscopy with ureteral catheterization or biopsy 35.00
5003—Cystoscopy, operative 35–100
5004—Cystotomy, suprapubic 75.00
5005—Epididymectomy 50.00
5006—Hydrocele, aspiration of 10.00
5007—Hydrocele, operation for 50.00
5008—Litholapaxy 75.00
5009—Nephrectomy 175.00
5010—Nephrotomy 150.00
5011—Orchidectomy 75.00
5012—Prostatectomy, perineal 175.00
5013—Prostatectomy, suprapubic, two-stage 200.00
5014—Prostatic resection, transurethral 100–175
5015—Prostatic abscess, incision and drainage 75.00
5016—Pyelotomy with removal of calculus 150.00
5017—Ureteral stone, removal of (non-operative) 25–75
5018—Uretero-intestinal anastamosis, unilateral 100.00
5019—Uretero-intestinal anastamosis, bilateral, one-stage 150.00
5020—Ureterolithotomy 150.00
5021—Urethral fistula, operation for 75.00
5022—Urethrotomy, external 75.00
5023—Urethrotomy, internal 50.00
5024—Varicocele, operation for 50.00
*Also listed under EXAMINATIONS—SPECIAL

SURGERY—ORTHOPEDIC

5500—Arthroplasty, major joint 150.00
5501—Application of plaster cast, chest 20.00
5502—Application of plaster cast, thighs and hips 25.00
5503—Application of plaster cast, thigh and leg 10.00
5504—Application of plaster cast, torso 25.00
5505—Application of plaster cast, torso and hips 35.00
5506—Application of plaster cast, entire body 45.00
5507—Bone graft (long bone), including plaster cast 175.00
5508—Bone plate, removal of 50.00
5509—Bone tumor, extensive, removal of 150.00
5510—Bone tumor, small, removal of 50.00
5511—Cartilage of condyle of femur, removal of 75.00
5512—Cartilage, semilunar, removal from joint 100.00
5513—Claw foot, operation for 100.00
5514—Coccyx, excision of 50.00
5515—Hallux valgus, unilateral, operation for 60.00
5516—Hallux valgus, bilateral, operation for 75.00
5517—Hammer toe, operation for 25.00
5518—Osteomyelitis, operation for, small bones 50.00
5519—Osteomyelitis, operation for, large bones, tibia, fibula, femur, humerus, radius, ulna, spine, pelvis) 100.00
*2317—Osteomyelitis of skull, excision of 150.00
5520—Paracentesis, joint, therapeutic 5.00
5521—Sequestrum, removal of (deep) 100.00
5522—Sequestrum, removal of (superficial) 50.00
5523—Tenorrhaphy, one 50.00
5524—Tenorrhaphy, each additional 25.00
5525—Tenotomy, closed 25.00
5526—Torticollis, spasmodic, operation for 125.00
5527—Vertebral fixation (Albee or Hibbs) 150.00
*Also listed under SURGERY—NEUROSURGERY

FRACTURES AND DISLOCATIONS

NOTE: The fees stated for fractures and dislocations include reduction, fixation and fourteen days' postoperative care but are exclusive of hospital charges, anesthetist's and X-ray fees. (See note at beginning of Part II of this fee schedule). Fees for visits after fourteen days' completed postoperative care will be the applicable ones of those listed as hospital, home or office visits in Part I of this fee schedule—Items 0013-0022, inclusive.

Plaster casts applied or reapplied for fractures or dislocations during the period covered by the fourteen days' after-care are considered a part of the treatment and no additional fees for **application** of casts for these conditions will be authorized. The fee for application or reapplication of plaster casts after fourteen days' completed postoperative care will be fifty percent of the appropriate fee listed under Items 5501-5506, inclusive. One hundred percent of these items will be charged only when disability other than fracture or dislocation is being treated.

The **cost of Plaster of Paris** used for casts in contract or private hospitals will be listed as a part of the hospital charge.

Compound fractures. The fee for care of compound fracture is that for care of simple fracture plus fifty percent, except when otherwise specified.

Open operation for fracture or dislocation. The fee for open operation when this procedure is necessary

for reduction and fixation of a fracture or dislocation is that for care of simple fracture or dislocation plus fifty percent, except when differently specified.

Multiple fractures. When more than one bone is fractured, the fee will be that for the major fracture plus fifty percent of the fee listed for each other fracture.

Fracture involving dislocation. When a fracture involves dislocation, the fee will be that for the fracture plus fifty percent of the fee for treatment of the dislocation.

SURGERY—ORTHOPEDIC (Compound and Simple Fractures)

	Simple	Compound
Carpal bone, one	6000— 25.00	6500— 37.50
Carpal bones, each additional	6001— 5.00	6501— 7.50
Clavicle	6002— 50.00	6502— 75.00
Coccyx	6003— 10-50	6503— 15-75
Femur	6004—100.00	6504—150.00
Femur, saturing, plating or nailing	6005—150.00	6505—150.00
Fibula, including Potts' fracture	6006— 35.00	6506— 52.50
Fibula, including Potts' fracture, suturing or plating	6007— 52.50	6507— 52.50
Finger, one	6008— 25.00	6508— 37.50
Fingers, each additional	6009— 5.00	6509— 7.50
Humerus	6010— 50.00	6510— 75.00
Humerus, suturing or plating	6011—100.00	6511—100.00
Metacarpal bone, one	6012— 25.00	6512— 37.50
Metacarpal bones, each additional	6013— 5.00	6513— 7.50
Metatarsal bone, one	6014— 25.00	6514— 37.50
Metatarsal bones, each additional	6015— 5.00	6515— 7.50
Patella	6016— 50.00	6516— 75.00
Patella, suturing or plating or excision	6017—100.00	6517—100.00
Pelvis	6018— 75.00	6518—112.50
Radius, or ulna, or both, including Colles' fracture	6019— 50.00	6519— 75.00
Radius, or ulna, or both, including Colles' fracture, suturing or plating	6020—100.00	6520—100.00
Rib, one	6021— 10.00	
Ribs, each additional	6022— 5.00	
Sacrum	6023— 50.00	6523— 75.00
Scapula	6024— 30.00	6524— 45.00
Sternum	6025— 50.00	6525— 75.00
Tarsal bone, one	6026— 25.00	6526— 37.50
Tarsal bones, each additional	6027— 5.00	6527— 7.50
Tibia, including Potts' fracture	6028— 75.00	6528—112.50
Tibia, including Potts' fracture, suturing or plating	6029—112.50	6529—112.50
Tibia and fibula	6030—100.00	6530—150.00
Tibia and fibula, suturing or plating	6031—150.00	6531—150.00
Toe, one	6032— 25.00	6532— 37.50
Toes, each additional	6033— 5.00	6533— 7.50
Vertebrae, one or more	6034—100.00	6534—150.00
Vertebra, transverse process only	6035— 35.00	6535— 52.50

SURGERY—ORTHOPEDIC (Dislocations)

7000—Carpal bone, one	50.00
7001—Carpal bones, each additional	5.00
7002—Clavicle	25.00
7003—Elbow	50.00
7004—Finger, one	10.00
7005—Fingers, each additional	5.00
7006—Hip	75.00
7007—Knee	75.00
7008—Mandible	10.00
7009—Metacarpal bone, one	50.00
7010—Metacarpal bones, each additional	5.00
7011—Metatarsal bone, one	50.00
7012—Metatarsal bones, each additional	5.00
7013—Patella	50.00
7014—Pelvis	75.00
7015—Rib	25.00
7016—Shoulder	50.00
7017—Shoulder, recurrent or habitual, reduction only	50.00
7018—Shoulder, recurrent or habitual, correcting operation	125.00
7019—Tarsal bones, one	75.00
7020—Tarsal bones, each additional	10.00
7021—Thumb	25.00
7022—Toe, one	10.00
7023—Toes, each additional	5.00
7024—Vertebrae, one or more	100.00

NOTE: The fee for open reduction of a dislocation will be the appropriate fee listed above plus fifty percent.

SURGERY—ORTHOPEDIC (Joint Resections or Arthrodeses)

7400—Ankle joint	100.00
7401—Elbow joint	100.00
7402—Hip joint	150.00
7403—Knee joint	100.00
7404—Shoulder joint	125.00
7405—Wrist joint	100.00

SURGERY—ORTHOPEDIC (Amputations)

7800—Forequarter amputation (interscapulo-thoracic amputation)	200.00
7801—Disarticulation at shoulder	150.00
7802—Arm	100.00
7803—Forearm	100.00
7804—Hand	100.00
7805—Metacarpal, one	50.00
7806—Metacarpals, each additional	10.00
7807—Finger, one	50.00
7808—Fingers, each additional	10.00
7809—Hindquarter amputation (interinomino-abdominal amputation)	200.00
7810—Disarticulation at hip	150.00
7811—Thigh	100.00
7812—Leg	125.00
7813—Foot	100.00
7814—Metatarsal, one	50.00
7815—Metatarsals, each additional	10.00
7816—Toe, one	25.00
7817—Toes, each additional	5.00

ANESTHESIA

Any type

8000—First half-hour or fraction thereof	15.00
8001—Each subsequent half-hour or fraction thereof	5.00

(No additional fee is approved for local anesthesia used in connection with usual treatments in office or home. Time is to be calculated from beginning of anesthesia to delivery of patient to hospital bed.)

MISCELLANEOUS MEDICAL TREATMENT

NOTE: A physician who dispenses drugs or biologicals will consider this service included in his established visit fee when the drugs are routine non-expensive items. When an expensive drug is required, it is suggested that the physician prescribe (it is understood that a physician may prescribe all drugs—expensive and non-expensive) and the prescription be filled at a V. A. pharmacy or by a pharmacy participating in a state pharmaceutical plan.

Allergic desensitization to hay fever (preseasonal or perennial)

8100—For tree, grass or weed season	30.00
8101—For two of these seasons	50.00
8102—For all three seasons	65.00
8103—Desensitization to dust alone or in combination with other allergens	30.00
8104—Vaccine therapy for asthma, course of treatment	30.00
8105—Blood transfusion, not including cost of blood	15.00
8106—Blood transfusion, not including cost of blood, involving exposure of vein	25.00
8107—Blood for transfusion, supply by donor of blood per 100 cc	5.00
8108—Colonic irrigation	3.00
8109—Hypodermoclysis	5.00
8110—Injections: subcutaneous or intramuscular, exclusive of cost of drug, biological or other medication	3.50
8111—Injection, intravenous, exclusive of cost of drug, biological or other medication	5.00
8112—Non-surgical drainage of gall-bladder	4.00
8113—Preparation of autogenous vaccine including original culture	10.00
8114—Spinal medication, any type, as with meningococcus serum, exclusive of cost of drug or biological	10.00
8115—Therapy, histamine, per treatment	5.00

8116—Therapy, electroshock or metrazol, per treatment, to include medication, curare, etc., as employed 5.00

8117—Therapy, insulin shock, per treatment, to include medication 10.00

8118—Therapy, fever (mechanical) per treatment, to include medication and parenteral administration of fluids if required 10.00

8119—Therapy, malarial fever, per course 75.00

OCCUPATIONAL THERAPY AND PHYSIOTHERAPY

NOTE: Physical therapy and occupational therapy are understood to be treatment rendered by physicians practicing in the field of physical medicine or by physical therapists or occupational therapists who render such treatment on a prescription basis under the direction of physicians. Authorization for physical therapy and occupational therapy will be issued only to physicians who will in relevant cases pay the physical or occupational therapists.

OCCUPATIONAL THERAPY

8800—Occupational therapy per patient per hours (the fee per patient per day not to exceed $5.00) 2.00

Occupational therapy in groups (the fee per group per day not to exceed $10.00 and groups not to exceed five in number)

8801—Two patients, per hour 4.00

8802—Group of 3 to 5 patients, per hour 5.00

Supplies are to be furnished by the occupational therapist whenever necessary.

PHYSICAL THERAPY

8803—Infra-red lamp
8804—Baker 1.50

8805—Ultra Violet Ray
8806—Whirlpool
8807—Contrast baths 2.00
8808—Paraffin baths
8809—Hot fomentations

8810—Short or long wave
8811—Galvanism
8812—Sinusoidal
8813—Ionization
8814—Hydrotherapy 2.50
8815—Local massage and infra-red or baker
8816—Local muscle reeducation and infra-red or baker

8817—Suction pressure
8818—Electrical muscle test 3.00
8819—Any combination of treatment to one extremity or back

8820—General massage
8821—General exercises, postural or corrective
8822—General underwater exercises
8823—Gait training
8824—General manual muscle test (anterior poliomyelitis) 3.50
8825—Muscle reeducation (anterior poliomyelitis)
8826—Any combination of treatment to two or more extremities including back

8827—Above listed treatment in home 4.00

ROENTGENOLOGY WITH INTERPRETATION

BONES AND JOINTS OF EXTREMITIES

9000—Shoulder joint 10.00
9001—Hip joint 10.00

9002—Films of bones or joints distal to shoulder or hip 10.00

9003—Additional films of bones and joints distal to shoulder or hip 5.00

9004—Maximum fee for other than shoulder or hip joint 7.50

GENERAL

NOTE: Preparation of the patient for radiography in procedures requiring barium meals or enemas, intravenous injection (as in the Graham technique for gall bladder or intravenous pyelography), will be included by the radiologist as a part of the service for the fees listed below. In arteriography, phlebography, bronchography, myelography, pneumoencephalography, ventriculography, retrograde pyelography, and uterosalpingography, the fees listed below are for x-ray only; the fees for preparation for x-rays in these procedures are listed under EXAMINATIONS — SPECIAL and SURGERY — GYNECOLOGICAL. The total fee for retrograde pyelography is cystoscopy with ureteral catheterization plus the x-ray fee shown below.

9100—Abdomen (KUB) 10.00
9101—Arteriography or phlebography 15.00
9102—Bronchography 25.00
*0029—Chest, roentgenological study of 10.00
9103—Colon, barium enema 12.00
9104—Cystography 15.00
9105—Esophagus (only) 8.00
9106—Eye, localization of foreign body, Sweet method or equivalent 25.00
9107—Fistulae, contrast study 10.00
9108—Gall bladder, Graham technique 15.00
*0030—Gastrointestinal, including barium meal and enema, x-ray and fluoroscopy with preliminary KUB film 35.00
9109—Kymography 10.00
9110—Laminagraphy 15.00
9111—Mandibles 10.00
9112—Mastoids, including petrous pyramids 15.00
9113—Maxilla and facial bones 18.00
9114—Myelography 20.00
9115—Nasal bones 10.00
9116—Optic foramina, both for comparison 10.00
9117—Pelvis 15.00
9118—Pneumoencephalography 20.00
9119—Pyelography, intravenous, including cost of dye 20.00
9120—Pyelography, retrograde 15.00
9121—Sacroiliac joint 12.00
9122—Sialography 10.00
9123—Sinuses, paranasal 15.00
9124—Skull 15.00
9125—Small intestinal series 20.00
9126—Smith-Petersen nail 25.00
9127—Spine, cervical 15.00
9128—Spine, dorsal 15.00
9129—Spine, lumbo-sacral with coccyx 15.00
9130—Spine, entire 35.00
9131—Stomach and duodenum only with barium meal 15.00
9132—Thorax, ribs 5.00
9133—Urethrocystography 12.00
9134—Uterosalpingography 25.00
9135—Ventriculography including preliminary films 20.00
9150—Special examinations requiring additional time or unusual procedure. The fee shall be that for the examination in question plus an additional 50%

9151—INTERPRETATION OF ROENTGENOGRAMS per case 5.00
Not to exceed $6,000.00 per annum per Radiologist
*Also listed in PART I

X-RAY THERAPY, DEEP & SUPERFICIAL

9500—Original consultation 10.00
9501—Each subsequent visit where therapy is given 3.00
9502—Per r unit delivered regardless of factors employed 0.005
9503—Each follow-up examination limited to 15 in one year 3.00
9504—Maximum fee for x-ray therapy 175.00

RADIUM & RADON THERAPY

9601—Each examination and treatment 10.00
9602—Each subsequent visit limited to 15 in one year 3.00
9603—Per milligram or millicurie hour 0.05
9604—Maximum fee for radium treatment or radon insertion 175.00
(When radon is not furnished by the government cost will be added)

+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

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Farnhurst, Del.

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Vol. 20 March, 1948 No. 3

V. A. Fee Schedule

We are printing in this issue of The Journal the complete fee schedule approved by the Medical Society of Delaware and the V. A. Administration for home care of veterans in the state of Delaware. For the most part, these fees are quite fair. In some places we believe they are too low, and in some others they are more than adequate, the average being, as we said, a fair schedule.

At present not every doctor in Delaware is eligible to render this care for veterans. Only those physicians who have signed up on the blank sent out by the Secretary of the Society last fall are eligible. However, it is the desire of the Society and of the V. A. that every doctor in Delaware sign up and become eligible. Under the contract, which was printed in The Journal for January, 1948, it is provided that such signing up must be through the office of the Secretary, Dr. Gerald A. Beatty, 503 Delaware Avenue, Wilmington.

Dr. Parran Goes

Dr. Thomas Parran, Surgeon-General of the United States Public Health Service for the past twenty years, will be relieved of his office on April 6, when his current four-year term expires. President Truman has appointed in his stead Dr. Leonard A. Scheele, as the new Surgeon-General. Dr. Scheele is being promoted over the heads of some others on the list because of his splendid record as an organizer.

We view the passing of Dr. Parran with mixed feelings. As an administrator of a many-angled and difficult office, he leaves behind him an excellent record for efficiency. As a man, we have known him personally for many years and esteem him highly. But ,we, along with all the others who are opposed to socialized medicine, do not like his latter-day espousal of regimented medicine, as contemplated in the Wagner Bill. This is a reversal of the position he took many years ago. It now depends on just what position Dr. Scheele will take on this issue as to whether we are jumping out of the frying pan into the fire, or whether the Public Health Service will be amenable to the voices of the thinking public and of the profession. Doubtless both of them have acted, and will continue to act, according to directives from above.

In any event, we wish Dr. Scheele all success in his new undertaking, and we wish continued success to Dr. Parran, who we understand will remain in the United States Public Health Service in a new assignment, probably overseas.

re: EXECUTIVE SECRETARY

After two years of consideration of the subject of employing a part time executive secretary for the Medical Society of Delaware, the House of Delegates at its meeting in October, 1947, adopted a budget to provide for the employment of such an official. To provide funds for this purpose and for the other items that make up the expenses of a Society conducted along modern lines, the dues were raised to twenty-five dollars ($25.00) for the year 1948. This jump from the previous dues of ten dollars ($10.00) is a considerable one, and the House named this sum only after considerable discussion, when it was approved without a dissenting vote. The crux of the discussion was that the elected Secretary simply did not have time to carry on the ever-increasing correspondence, to make arrangements for the annual meeting and the program thereof, and all the many little odds and ends that the secretaryship called for. This was the definite opinion of the last two secretaries, who spoke at length concerning this matter. (See Transactions in the December, 1947 issue.)

The Budget Committee, in whose hands the management of the program was placed by the House, has appointed your Editor to this new position effective March 1st. The latter has accepted this appointment with the understanding that it is for this year only and that he reserves the right to decline reappointment next year, should such a reappointment be tendered. In other words, the present setup is a tryout for both the Society and the new official.

In our new endeavor in behalf of the Society, we bespeak your patience and cooperation during the year, as there is much old material to be completed, classified and codified, new record files to be established and an augmented program to be arranged for, to say nothing of the current items.

One thing is certain: at long last this ancient and honorable Society is stepping out in the right direction—towards modernity.

MISCELLANEOUS

Influenzal Meningitis

Recovery from influenzal meningitis is more prompt and complications are fewer when treatment by spinal puncture is omitted, according to two doctors in the February 28 issue of *The Journal of the American Medical Association*.

The writers are Archibald L. Hoyne, M. D., and Rowine Hayes Brown, M. D., from the Municipal Contagious Disease and Cook County Disease Hospitals, Chicago.

Influenzal meningitis is a type of inflammation of the three membranes which envelop the brain and spinal cord. It is caused by an influenzal virus, but its symptoms resemble those of other types of bacterial meningitis.

Rare in adults, the disease was formerly almost universally fatal. The sulfonamide compounds, specific anti-influenzal serum and streptomycin have all made the picture more optimistic, but even today there is no standard accepted for their application. Many doctors still believe that numerous spinal taps for drainage are necessary even after diagnosis has been established by spinal tap. Furthermore, when the National Research Council released streptomycin for treatment it advised that the new antibiotic be injected by spinal puncture.

The Chicago doctors' conclusion is based on a dozen years of experience in the treatment of meningitis. In their article they report specifically on 14 consecutive patients with influenzal meningitis treated at the County hospital in 1946 and 1947 and 16 consecutive patients treated at the Municipal hospital in 1946. There was only one death in each group, and in both of the fatal cases the patients had been given streptomycin by spinal puncture as well as intramuscularly. On the other hand, 23 of the 28 patients who recovered had received no treatment by spinal puncture after diagnosis. These 23 had been given streptomycin intramuscularly, had been treated with serum, or had received sulfonamide compounds—sometimes all three.

"The primary purpose for a lumbar puncture should be to establish a diagnosis," Dr. Hoyne and Dr. Brown conclude.

SERVICE AT NIGHT

The American Medical Association called on county medical societies today to meet the public demand for emergency medical service at night.

"From many sections of the United States," say an editorial in the March 6 issue of *The Journal of the American Medical Association*, "complaints have come lately that persons who have called physicians late at night have been unable to secure attendance from either those whom they considered their family physicians or from specialists or, indeed, from any physician."

Answering this condition, *The Journal* says that county medical societies in some areas maintain a physicians' telephone exchange which takes the responsibility for locating physicians if response is not made to the ringing of the telephone in the home or in the office.

The editorial says:

In one western community a fire chief gave to the press information to the effect that he had called twenty-four doctors and had been unable to secure attendance by any of them. A subsequent investigation indicated that he had actually talked only to two osteopaths who had stated that the case was not within their province—(strange indeed!)—and that he had been unable to reach physicians. In some instances the difficulty of seering a physician had been made part of a battle to secure control of the ambulance system or the first aid organization of the place concerned.

Conditions Worse in Large Cities

Notwithstanding the explanation of these isolated instances, many physicians do dodge the making of calls on patients in the late hours of the night or early morning; the crowding of physicians' offices and hospitals makes difficult in large cities even the securing of a prompt appointment in the office. Some radio comedians are now using the public interest in the question as the basis for jibes at the medical profession; Groucho Marx recently said to one of his contestants, "Make an appointment with the doctor and probably you'll see him in two or three days."

Many persons and some physicians seem to believe that a doctor must respond to any call that comes to him. The law does not cover this situation as far as is known. The Principles of Ethics are explicit:

"A physician is free to choose whom he will serve. He should, however, always respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service."

Interpretation of this statement should not be difficult. In one city recently a child was struck by an automobile and sustained a fracture. The accident occurred on a corner next to a great building in which were housed many physicians. Someone from the street who had seen the accident attempted to secure the services of a half dozen physicians who were at the time in their offices, yet all refused to respond to the call, offering as excuses the specialties which they practiced or the fact that they were at the moment engaged with a patient. Public opinion condemned them unequivocally; their failure to respond greatly injured the good will of the public for the medical profession in the community as a whole.

Some Areas Set up Phone Exchange

When the pressure on the medical profession becomes severe, as it is now in this postwar period, demands are likely to press too heavily on the available service. Organization of the medical profession to meet the emergency needs was a conspicuous part of the solution of wartime problems. Some communities have, however, established permanent organizations for attending to such demands. County medical societies in some areas maintain a physicians' telephone exchange which takes the responsibility for locating physicians if response is not made to the ringing of the telephone in the home or in the office. For meeting emergencies the exchange maintains a list of physicians who are willing to make calls at night. Many young physicians gladly list their names with such exchanges. The medical societies of the District of Columbia, of Milwaukee and of Oakland, Calif., have established physicians' service bureaus and have registered the names of physicians who are willing to respond to calls from persons unknown to them who are seeking a physician. These bureaus will supply to any caller the names of three specialists when a specialized service is requested. Information is also maintained as to physicians

who are available during the day or at night and the offices in which they are available. Many of the night calls come from older physicians who request the bureau to send young practitioners on emergency calls. These are samples of specific organizations which are meeting the public demand for emergency medical service.

Actually comparatively few "night calls" are so urgent that harm would result from postponing response until morning. Nevertheless, the patient who suffers pain or the mother who is frightened over a condition in her child that she does not understand is little interested in explanations as to the percentage of emergency calls that are not really emergencies.

PHYSICIANS MUST CARRY HEAVY BURDEN

Intemperate discussion of this subject has caused some publications to assert that a government medical service would prevent such incidents. These statements are made without knowledge of what actually occurs when government agencies take over medical practice. When the physician is placed on a nonprofessional basis, he is likely to act like other nonprofessional employees.

Any human being who is fatigued or exhausted by long hours of work under conditions of stress and great responsibility will eventually reach a point at which response is difficult. People should understand that the physicians of the United States carried a tremendous burden during the war. The removal of one-third of the medical profession from private practice placed enormous stress on those who remained at home. The young men who returned from the war have to work hard to bring themselves up-to-date and they have the same problems of housing, difficulties of securing equipment and making postwar adjustments that occur in every other occupation. These adjustments will be made gradually. Nothing is to be gained by unwarranted, acrimonious and intemperate charges of failure to meet what seem to be absolute obligations.

Think of the benefit from a campaign to stop the spray of infected mouth and nose droplets! Not only would the spread of the disease be slowed but the seasonal surge of diseases like the common cold, influenza, measles, whooping cough and pneumonia would diminish. It would be possible to go to a movie without having a germ-laden spray hurled at one from behind and consequently having to suffer from the other fellow's respiratory infection. Under these conditions, dodging the tubercle bacillus, in and out of the hospital, would be possible for all of us. Ezra Bridge, M.D., NTA Bull., June, 1947.

A turning point has now been reached in the chemotherapy of tuberculosis. Although streptomycin may not be the final answer in the treatment of this scourge of mankind—and I hope that it is not—it has opened a new path, a path of antibiotic approach to chemotherapy, an approach sought since the discovery of the bacterial nature of the disease; the control of tuberculosis may finally materialize and thus advance man one step further in his battle against disease and epidemics. Selman A. Wakeman, D.Sc., Ph.D., JAMA, Oct. 25, 1947.

It is wise to assume that all subjects who show a positive tuberculin test before the age of three years have active infection. In such children, the infection has hardly had time to become inactive. Joseph D. Wassersung, M. D., N. E. Jour. Med., July 3, 1947.

BOOK REVIEWS

Sexual Behavior in the Human Male. By Alfred C. Kinsey, Professor of Zoology, Indiana University; Wardel B. Pomeroy, Research Associate, Indiana University; and Clyde E. Martin, Research Associate, Indiana University. Pp. 804, with 173 charts and 159 tables. Cloth. Price, $6.50. Philadelphia: W. B. Saunders Company, 1948.

This, the most comprehensive work on the subject now extant, and based on 12,000 case histories, contains data never before available, much of which is startling. It indicates that our former ideas of the sex urge and its gratification, at all ages, from the teensters to the oldsters, may need to be revamped. This

predicates, further, a possible indication for a revision of our moral code; certainly it is a sermon in favor of early marriage. The church may not like some of its implications.

This book is so well known already that, even among the laity, it is referred to as "The Kinsey Report." It is of maximum importance to doctors, lawyers, teachers, biologists, researchers, and social workers; we especially recommend it to the clergy.

When Kinsey et al publish, in due season, their similar study on the human female, it is our humble prediction that it will show that the sex patterns and *mores* of the two sexes are quite similar. How could it be otherwise? For, as that observant and philosophical poet, Kipling, says:

The sins ye do
By two and two
Ye must pay for, one by one.

Minor Surgery. By Frederick Christopher, B. S., M. D., F. A. C. S., Associate Professor of Surgery at Northwestern University Medical School. Sixth edition. Pp. 1058, with 937 illustrations. Cloth. Price, $12.00. Philadelphia: W. B. Saunders Company, 1948.

Christopher's Minor Surgery comes along every four years, by the clock, proof enough that it is an excellent book, keeping up to the times. Much minor surgery is major in its difficultness and consequences, and this book covers such instances in a superlative way. The book represents thirty years of dispensary and hospital practice, and has been thoroughly revised, with new sections added totalling 52 pages.

Still the best Minor Surgery we know of.

A Manual of Clinical Therapeutics—A Guide for Students and Practitioners. By Windsor C. Cutting, M. D., Professor of Therapeutics, Stanford University School of Medicine. Second edition. Pp. 712, with 30 illustrations. Cloth. Price, $5.00. Philadelphia: W. B. Saunders Company, 1948.

This new Cutting contains 103 more pages than the first edition, made necessary by the recent additions and improvements in the therapeutic armamentorium. It is a true manual—concise, but accurate and ample. There are 9 appendices, of special procedures, diet lists, treatment of poisoning, weights, etc. This work is highly recommended to students, internes, and practitioners.

Neutron Effects on Animals. By the Staff of the Biochemical Research Foundation. Pp. 197; illustrated. Cloth. Price, $3.00. Baltimore: Williams & Wilkins Company, 1947.

This little volume from Newark, Delaware, reports the results of preliminary researches in an effort to find the most promising aspects for future explorations. It is difficult to read, much less to understand, unless one has a better-than-average knowledge of physics. These researches from the Delaware cyclotrone, and the others to follow, will tie in with the other investigations being made, under Federal control, of nuclear physics, such as improved atom bombs, etc., and their effects on the human economy.

The Selected Writings of Benjamin Rush. Edited by Dagobert D. Runes. Pp. 433. Cloth. Price, $5.00. New York: Philosophical Library, Inc., 1947.

These selections of the writings of the famous Rush are indicative of his wide range of knowledge and interests, and are grouped as follows: On Good Government; On Education; On Natural Sciences; and On Miscellaneous Things. As a political seer he ranked close to his fellow Philadelphian, Benjamin Franklin. As a scientist he was undeniably America's first psychiatrist. His ideas of education were advanced for his day. We enjoyed most the chapter on "Medicine Among the Indians of North America."

This is an excellent book to take with you on that vacation.

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140 Million Patients. By Carl Malmberg. Cloth. Pp. 242. Price, $2.75. New York: Reynal & Hitchcock, 1947.

This book is an argument for socialized medicine, and follows the technique familiar now to everybody. If you are not now in favor of socialized medicine this Malmberg opus will not convert you.

1789—MEDICAL SOCIETY OF DELAWARE—1948

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D. D. BURCH, *Secretary*
CHARLES LEVY, *Treasurer*

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STANLEY WORDEN, *Secretary-Treasurer*, Dover.

Delegates: I. J. MacCollum, Wm. Marshall, Jr.

Alternate: J. S. McDaniel.
Censor: Baker S. McDaniel.

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Meets Second Thursday

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LESLIE M. DOBSON, *Secretary-Treasurer*, Milford.

Delegates: Bruce Barnes, C. M. Moyer, J. B. Homan, A. H. Williams.

Alternates V. A. Hudson, J. L. Fox, G. W. M. VanValkenburgh, E. L. Stambaugh.

DELAWARE STATE DENTAL SOCIETY

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R. R. WIER, *First V. P.*, Wilmington.
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